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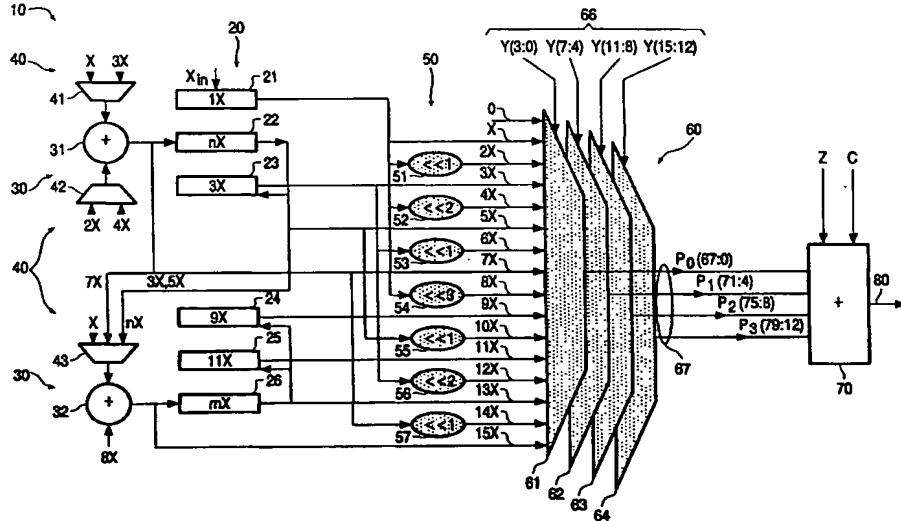
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(54) Title: MULTIPLIER WITH LOOK UP TABLES



WO 2004/051456 A3

(57) Abstract: A method of performing modular multiplication of integers X and Y to produce a result R, where $R = X \cdot Y \bmod N_i$, in a multiplication engine. X is fragmented into a first plurality of words x_n each having a first predetermined number of bits, k and Y is fragmented into a second plurality of words y_n each having a second predetermined number of bits, m. Multiples of a word x_n of X are derived in a pre-calculation circuit and subsequently used to derive products of the word x_n of X with each of the plurality of words y_n of Y. An intermediate result R_j is calculated as a cumulating sum derived from said pre-calculated multiples and the steps repeated for each successive word of X so as to generate successive intermediate results, R_j , for each of the first plurality of words x_n . The final result, R is obtained from the last of the intermediate results R_{n-1} .



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TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent
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ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ,
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B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4 864 529 A (SHAH IMRAN A ET AL) 5 September 1989 (1989-09-05) column 1, line 52 – column 2, line 11	15-17
Y	abstract column 3, line 16 – column 5, line 44 figures 4,5	1-14,18, 19
Y	WO 02/03608 A (KOC CETIN K ; SAVAS ERKAY (US); OREGON STATE (US); YANIK TUGRUL (US)) 10 January 2002 (2002-01-10) abstract page 3, line 12 – page 4, line 27 page 10, line 30 – page 14, line 7	1-14,18, 19

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5 121 431 A (WIENER MICHAEL J) 9 June 1992 (1992-06-09) abstract column 1, line 45 - column 2, line 52 figures 1,2 -----	1-19

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